

Application No. 10/554,716
Amendment dated November 26, 2010
Reply to Final Office Action of August 5, 2010

Docket No.: JK/AK 0701 US-PAT

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A roll (100) for pressure treatment of material bands,

with a carrier (3),

with a roll shell (4) mounted around the carrier (3),

with at least one pressure chamber (12) between the carrier (3) and the roll shell (4), which chamber is filled at least partly with a supporting liquid which can transmit the hydraulic supporting force from the carrier (3) to the roll shell (4), at least indirectly,

wherein in the at least one pressure chamber (12) there is provided an elastic element (18') which unrestrictedly communicates with the liquid ~~constriction-free~~ and is compressible when the liquid pressure required for producing the hydraulic supporting force is exceeded.

Claim 2 (Previously Presented): The roll as claimed in claim 1, wherein the roll comprises at least one leakage chamber (13) for receiving supporting liquid leaving the pressure chamber (12).

Claim 3 (Previously Presented): The roll as claimed in claim 2, wherein at least one elastic element (18) is provided in the at least one leakage chamber (13).

Claim 4 (Previously Presented): The roll as claimed in claim 1, wherein the at least one elastic element (18, 18') comprises a hollow chamber which is, or can be, provided with a compressible medium.

Claim 5 (Previously Presented): The roll as claimed in claim 4, wherein the at least one elastic element (18, 18') is formed as a hose.

Claim 6 (Previously Presented): The roll as claimed in claim 4, wherein the compressible medium is air.

Claim 7 (Previously Presented): The roll as claimed in claim 6, wherein the elastic element (18, 18') is closed and filled with a predetermined pressure.

Claim 8 (Previously Presented): The roll as claimed in claim 7, wherein the elastic element (18, 18') is subjected to air under atmospheric pressure.

Claim 9 (Previously Presented): The roll as claimed in claim 7, wherein the elastic element (18, 18') comprises a one-way valve, by means of which it can be filled with air under a pressure that is lower than the pressure exerted on the hydraulic supporting liquid operation.

Claim 10 (Previously Presented): The roll as claimed in claim 6, wherein the at least one elastic element (18, 18') is connected to a compressed air source (26), by means of which the pressure can be adjusted in such a way that it is always slightly higher than the pressure exerted on the hydraulic supporting liquid.

Claim 11 (Previously Presented): The roll as claimed in claim 5, wherein the elastic elements (18, 18') formed as hoses comprise means for internal support (20).

Claim 12 (Previously Presented): The roll as claimed in claim 10, wherein the means for internal support (20) comprise a spiral coil of an elastically deformable material.

Claim 13 (Previously Presented): The roll as claimed in claim 1, wherein the at least one elastic element (18, 18') is provided in a recess machined into the carrier (3).

Claim 14 (Previously Presented): The roll as claimed in claim 13, wherein the recess has the form of an axially parallel running longitudinal groove (14, 15, 16, 17).

Claim 15 (Previously Presented): The roll as claimed in claim 1, wherein the means for determining the hydraulic pressure exerted on the supporting liquid are provided.

Claim 16 (Previously Presented): The roll as claimed in claim 15, wherein the roll is designed in such a way that the means for determining the hydraulic pressure serve for controlling or regulating the pneumatic pressure to which the at least one elastic element (18, 18') is subjected.